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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,009	06/24/2003	Benoit F. Bazin	03-0196 1496.00306	1641

24319 7590 03/26/2007
LSI LOGIC CORPORATION
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EXAMINER

DIEP, NHON THANH

ART UNIT	PAPER NUMBER
2621	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/603,009

Applicant(s)

BAZIN ET AL.

Examiner

Nhon T. Diep

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-13 and 20 is/are rejected.
- 7) ☒ Claim(s) 4, 5 and 14-19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/2003</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9, ln. 1 recites the limitation "said" in "said transition signals". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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4. Claims 10-13 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Katsavounidis et al

Katsavounidis et al discloses systems and methods for detecting scene changes in a video data stream comprising the same method for processing video, comprising the steps of:

(A) receiving a video signal comprising a plurality of frames (fig. 1, el. 106);

(B) generating one or more transition signals in response to (i) a current one of said frames, (ii) one or more frames that are processed before said current frame and (iii) one or more frames that are processed after said current frame (col. 10, ln. 48-62); and

(C) generating an encoded signal in response to (i) said video signal and (ii) said transition signals (col. 10, ln. 53-55) as specified in claim 10;

comprising the step of: recording said encoded signal (col. 5, ln. 44-50) as specified in claim 11; wherein step (A) generates said video signal in response to (i) a stored signal, (ii) a captured signal, or (iii) a decoded signal (fig. 1, el. 106, 110) as specified in claim 12; wherein step (B) comprises: generating field measures in response to said plurality of frames (col. 10, ln. 48-62) as specified in claim 13; and wherein said transition signals comprise information used by an encoder to simplify generating said encoded signal (scene change information is used to intra code the current frame) as specified in claim 20.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiiyama (US 6,977,963).

Shiiyama discloses a scene change detection method using two-dimensional matching comprising the same apparatus configured to process a digital video signal comprising:

an input circuit configured to present a digital video signal comprising a plurality of frames (fig. 2);

a processing circuit configured to detect scene changes in said digital video signal by analyzing (i) a current one of said plurality of frames (current frame, fig. 9, el. S20) and (ii) two or more other frames (fig. 9, el 20: previous frame + el. 22, two frames before current frame);; wherein said input circuit is configured to generate said digital video signal in response to either (i) a stored signal, (ii) a captured signal, or (iii) a decoded signal ((fig. 2, el. 11, 18); and wherein each frame comprises 1/30 of a second (NTSC signals = 30 frames per second) as specified in claim 8. It is noted that Shiiyama does not particularly disclose that an encoder circuit configured to generate an encoded signal in response to said digital video signal and said scene changes as specified in claim 1; further comprising a storage circuit configured to record the encoded signal as specified in claim 6 and wherein said transition signals comprise information used by

said encoder to simplify generating said encoded signal as specified in claim 9. The examiner takes Official Notice that after determining the scene change frame, it is well known that video signals are encoded as intra frame right after the scene change frame (information of scene change is used by encoder to intra-code the frame) and that encoded signals are often stored for later review. Doing so would help to provide better image quality for consumers.

7. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiiyama (US 6,977,963), in view of Katsavounidis et al (US 7,110,452).

As applied to claim 1 above, it is noted that Shiiyama does not particularly disclose a second window of frames that are processed after said current frame. Katsavounidis et al teaches that an additional criterion can be used to determine when a scene change has occurred. For example, in one embodiment, a determination is made as to whether the MAD value is a local maximum, that is, has increased from a previous frame to the frame at issue, and then decreased from the frame at issue to the next frame. If so, this indicates that it is likely the frame at issue is a scene change frame and should be intracoded. In addition, a similar determination may be made for the RMS value. For example, a determination is made as to whether the RMS value is a local maximum, that is, has increased from a previous frame to the frame at issue, and then decreased from the frame at issue to the next frame. If so, this too indicates that it is likely the frame at issue is a scene change frame and should be intracoded. Therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of Shiiyama by using next frames in

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determining scene change as taught by Katsavounidis et al. Doing so would help to avoid errors in scene change detection.

Regarding to claim 3: wherein: said first window comprises a first fixed number of frames that are processed before said current frame (Shiiyama shows a fixed number = at least 2); and said second window comprises a second fixed number of frames that are processed after said current frame (Katsavounidis et al shows a fixed number = 1).

Allowable Subject Matter

8. Claims 4-5 and 14-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A. Lee et al (US 5,592,226) discloses a method and apparatus for video data compression using temporally adaptive motion interpolation.

b. Fukukawa et al (US 4,689,672) discloses a method and device of coding a digital video signal for reproduction of pictures with a high quality.

c. Sheraizin et al (US 2004/0131117 A1) discloses a method and apparatus for improving MPEG picture compression.

d. Lee et al (US 5,617,149) discloses an apparatus and method for detecting scene change using the differences of MAD between image frames.

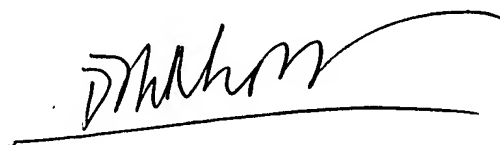
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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhon T. Diep whose telephone number is 571-272-7328. The examiner can normally be reached on m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ND
3/17/2007



**NHON DIEP
PRIMARY EXAMINER**